Claims

1. A compound that specifically blocks the binding between a member of the HuR family of proteins and a mRNA encoding a member of the CD83 family of proteins and that reduces expression of a member of the CD83 family of proteins in a cell.

2. A compound according to claim 1, characterized in that said compound comprises a nucleic acid.

3. A compound according to claim 1 or 2, characterized in that the compound comprises DNA.

4. A compound according to claim 1 or 2, characterized in that the compound comprises RNA.

5. A compound according to any of the preceding claims, characterized in that the compound contains at least a portion of the coding region of a member of the CD83 family of proteins or a derivative thereof.

6. A compound according to any of the preceding claims, characterized in that the compound contains from nucleotide 466 to 618 of the sequence in SEQ ID NO:1 or a derivative thereof.

7. A compound according to any of the preceding claims, characterized in that the compound contains from nucleotide 466 to 615 of the sequence in SEQ ID NO:1 or a derivative thereof.

8. A compound according to any of the preceding claims, characterized in that the compound contains a nucleic acid having a secondary structure comprising a 3-pronged

stem-loop structure with an energy of -28.4 kcal/mol or less, preferably -29.7 kcal/mol or less.

9. A compound according to any of the preceding claims, characterized in that the compound is a nucleic acid that comprises regulatory sequences that lead to the transcription of an RNA molecule from said nucleic acid in a cell.

10. A compound according to any of the preceding claims, characterized in that the compound is a nucleic acid that does not contain regulatory sequences that lead to the translation of a polypeptide or protein from said nucleic acid in a cell.

11. A compound according to claim 1, characterized in that said compound comprises a protein.

12. A compound according to claim 11, characterized in that said protein is a derivative of members of the ELAV superfamily of proteins.

13. A compound according to claim 12, characterized in that said protein is selected from the group of proteins consisting of ELAV, HuR, HuB, HuC, HuD, HuDpro, HuDmex, Hel-N2 and HuC isoforms, Rel-N1 and naturally occurring homologues of these proteins.

14. A compound according to claim 11, characterized in that said protein is a derivative of a protein ligand to HuR.

15. A compound according to claim 14, characterized in that said protein is selected from the group of proteins consisting of SETα, SETβ, pp32 and APRIL as well as naturally occurring homologues of these proteins.

16. A pharmaceutical composition comprising a compound according to any of claims 1 to 15.

17. The use of a compound according to any of claims 1 to 15 for the production of a pharmaceutical composition for treating or preventing disease involving the direct or indirect participation of DC.

18. The use according to claim 17, characterized in that said disease is selected from the group consisting of diseases involving the growth, differentiation and/or activation of cytotoxic T cells and helper T cells, the differentiation of helper T cells into Th1 cells or Th2 cells, the growth, stimulation and/or differentiation of B cells.

19. The use according to claim 17, characterized in that said disease is selected from the group consisting of allergies, asthma autoimmune syndromes such as myasthemia gravis, multiple sclerosis and systemic lupus erythematosis, skin diseases such as psoriasis, rheumatoid arthritis and AIDS.

20. The use of a compound a compound according to any of claims 1 to 15 for the production of a pharmaceutical composition for treating or preventing rejection of a tissue or organ transplant.

21. An expression vector comprising a nucleic acid sequence encoding a ribonucleic acid according to any of claims 4 to 10.

22. A host cell transformed with the expression vector according to claim 21.

23. The use of an expression vector encoding an ribonucleic acid according to any of claims 4 to 10 for the

production of a medicament for the treatment and prevention of disorders, diseases and syndromes involving the direct or indirect participation of DC by regulating an immune response.

24. An expression vector comprising a nucleic acid sequence encoding a protein according to any of claims 11 to 15.

25. A host cell transformed with the expression vector according to claim 24.

26. The use of an expression vector encoding a protein according to any of claims 11 to 15 for the production of a medicament for the treatment and prevention of disorders, diseases and syndromes involving the direct or indirect participation of DC by regulating an immune response.

27. Method for screening and/or identifying compounds that block the binding between a member of the HuR family of proteins and a mRNA encoding a member of the CD83 family of proteins comprising the steps of incubating one or more compounds in a reaction comprising:
(a) a nucleic acid molecule that contains at least a portion of the coding region of a member of the CD83 family of proteins or a derivative thereof and
(b) a member of the ELAV superfamily of proteins or derivative thereof
under conditions sufficient to allow the components to interact and determining whether the compound blocks the binding between the nucleic acid molecule and the member of the ELAV superfamily of proteins.

28. Method according to claim 27, characterized in that the member of the CD83 family of proteins is CD83.

29. Method according to claim 27 or 28, characterized in that the member of the ELAV superfamily of proteins is selected from the group consisting of ELAV, HuR, HuB, HuC, HuD, HuDpro, HuDmex, Hel-N2 and HuC isoforms, Rel-N1 and naturally occurring homologues of these proteins.

30. Method according to any of claims 27 to 29, characterized in that said method is carried out in the form of an assay selected from the group RNA gel shift assay, filter binding assay, Biacore interaction analysis, Scintilation Proximity Assay, RNAse protection assay, cell-based RNA binding assay, yeast 3-hybrid assays and reporter gene assay.

31. Use of a compound that blocks the binding between a member of the HuR family of proteins and a mRNA encoding a member of the CD83 family of proteins when incubated in a reaction comprising:
(a) a nucleic acid molecule that contains at least a portion of the coding region of a member of the CD83 family of proteins or a derivative thereof and
(b) a member of the ELAV superfamily of proteins or derivative thereof
under conditions sufficient to allow the components to interact, for the production of a pharmaceutical composition for treating or preventing disease involving the direct or indirect participation of DC.